

WHAT IS CLAIMED IS:

1. A sheet definition data managing apparatus comprising:

a sheet defining terminal for generating sheet definition data for defining characteristics of various sheets;

a sheet definition data managing server for storing and managing the sheet definition data; and

a charge managing server for managing the number of use times each time each of the various sheets is recognized by using the sheet definition data,

wherein charge information stored in said charge managing server is collected from an external via a network, a charge to be claimed is calculated from the collected charge information, and the calculated use charge is claimed for the external.

2. A sheet definition data managing apparatus according to claim 1, wherein the external connected to the apparatus has a plurality of sheet recognizing apparatus for recognizing each sheet, and said charge managing server manages the number of use times of the sheet definition data by each of said sheet recognizing apparatus.

3. A sheet definition data managing apparatus according to claim 1, further comprising a sheet image managing server for storing and managing image data of a sheet, wherein said sheet definition terminal reads

the sheet image data from said sheet image managing server, generates sheet definition data by judging whether the sheet image data is used for new generation of the sheet definition data or for modification thereof, displays and edits the read sheet image data and generated sheet definition data, and stores the edited sheet definition data in said sheet definition data managing server.

4. A sheet definition data managing apparatus according to claim 1, further comprising a sheet image managing server for storing and managing image data of a sheet and a verifying terminal for performing a recognizing process of recognizing the sheet image data read from said sheet image managing server by using the sheet definition data read from said sheet definition data managing server and for verifying a result of the recognizing process.

5. A sheet definition data managing apparatus according to claim 1, wherein said sheet definition data managing server includes a sheet management table storing the sheet definition data classified into each category and determines the sheet definition data to be supplied to the external, by referring to the sheet management table.

6. A sheet definition data managing apparatus according to claim 5, wherein the sheet management table stores information of sheet definition data supplied being charged, sheet information data supplied

free, and sheet information data still not supplied, and a charge is claimed to the external by referring to the information.

7. A sheet definition data managing apparatus according to claim 1, wherein the external connected to the apparatus has a plurality of sheet recognizing apparatus for recognizing each sheet, and said charge managing server has a first table for storing the number of use times by each of said sheet recognizing apparatus and a second table for managing a charge amount to be claimed to each of said sheet recognizing apparatus, and checks the number of use times and a claimed date of the sheet definition data for each of said sheet recognizing apparatus by referring to the first and second tables.

8. A sheet definition data managing apparatus according to claim 1, wherein the external connected to the apparatus has a plurality of sheet recognizing apparatus for recognizing each sheet, and said charge managing server acquires the number of use times of the sheet definition data from said sheet recognizing apparatus via the network at a desired date and time, calculates a use charge by each of said sheet recognizing apparatus from the acquired number of use times, and claims the calculated use charge to each of said sheet recognizing apparatus.

9. A sheet definition data managing apparatus according to claim 1, wherein the external connected to

the apparatus has a plurality of sheet recognizing apparatus for recognizing each sheet, and said charge managing server has a first table for storing the number of use times by each of said sheet recognizing apparatus and a second table for managing a charge amount to be claimed to each of said sheet recognizing apparatus, collects the numbers of use times of the sheet definition data from said sheet recognizing apparatus at a desired date and time to write the numbers of use times in the first table, calculates a use charges of each of said sheet recognizing apparatus by referring to the first table to write the calculation results in the second table, claims the use charge to each of said sheet recognizing apparatus by referring to the second table, and when each of said sheet recognizing apparatus pays the claimed use charge, writes a flag indicating the payment in the second table.

10. A sheet definition data managing apparatus according to claim 1, wherein when image data of a sheet acquired from the sheet definition data is recognized and if the image data is recognizable, a count of the number of use times is incremented, whereas if the image data is unrecognizable, the unrecognizable image data of the sheet is stored.

11. A sheet definition data managing apparatus according to claim 1, further comprising a sheet image managing server for classifying acquired image data of

sheets into various categories and storing and managing characteristic data of the sheets.

12. A sheet recognizing apparatus comprising:

image acquiring means for acquiring image data of a sheet;

a sheet definition database for storing sheet definition data defining characteristics of the sheet; and

a sheet image processing terminal for recognizing the image data of the sheet acquired by said image acquiring means by referring to the sheet definition data stored in said sheet definition database,

wherein said sheet image processing terminal reads the sheet definition data corresponding to the image data of the sheet acquired by said image acquiring means from said sheet definition database to execute a recognizing process, if the image data is recognizable, displays a result of the recognizing process, whereas if the image data is unrecognizable, reports the unrecognizable image data of the sheet to an external, stores new sheet definition data obtained from the external in response to the report in said sheet definition database, and recognizes the unrecognizable image data of the sheet by referring to the new sheet definition data stored in said sheet definition database.

13. A sheet recognizing apparatus according to

claim 12, wherein the sheet definition data stored in said sheet definition database includes layout definition data for distinguishing between types of sheets and format definition data for identifying a field in each sheet.

14. A sheet recognizing apparatus according to claim 12, wherein the recognizing process includes a process of judging whether the image data can be recognized by using the sheet definition data stored in said sheet definition database, and the apparatus further comprises an unrecognizable image file for storing unrecognizable image data of a file.

15. A sheet recognizing apparatus according to claim 12, further comprising a charge table for storing the number of use times each time the sheet definition data stored in said sheet definition database is used.

16. A sheet recognizing apparatus according to claim 15, wherein the number of use times stored in said charge table is reported to the external, and a use charge of the sheet definition data corresponding to the number of use times and claimed from the external is paid to the external.

17. A sheet recognizing apparatus according to claim 15, wherein the external connected to the apparatus includes a sheet definition data managing apparatus for generating and managing the sheet definition data stored in said sheet definition database.

18. A managing apparatus comprising:

    a managing server for defining a characteristic field of a sheet and storing and managing sheet definition data necessary for recognizing the sheet; and

    a charge server for storing and managing information on a charge of the sheet definition data, wherein said charge server claims a charge each time said managing server supplies the sheet definition data.

19. A managing apparatus according to claim 18, further comprising image acquiring means for acquiring image data of the sheet or acquiring the image data of the sheet from an external, wherein the sheet definition data to be stored in said managing server is generated in accordance with the image data of the sheet acquired by said image acquiring means.

20. A managing apparatus according to claim 18, wherein said managing server includes a sheet management table for storing the sheet definition data classified into categories, and determines the sheet definition data to be supplied to the external, by referring to the sheet management table.

21. A managing apparatus according to claim 18, further comprising a plurality of sheet recognizing apparatus, connected to said managing server, for recognizing each sheet, wherein said charge managing server has a first table for storing the number of use

times by each of said sheet recognizing apparatus and a second table for managing a charge amount to be claimed to each of said sheet recognizing apparatus, and checks the number of use times and a claimed date of the sheet definition data for each of said sheet recognizing apparatus by referring to the first and second tables.

22. A managing apparatus according to claim 18, further comprising a plurality of sheet recognizing apparatus, connected to said managing server, for recognizing each sheet, wherein said charge managing server acquires the number of use times of the sheet definition data from said sheet recognizing apparatus via the network at a desired date and time, calculates a use charge for each of said sheet recognizing apparatus from the acquired number of use times, and claims the calculated use charge to each of said sheet recognizing apparatus.

23. A managing apparatus according to claim 18, further comprising a plurality of sheet recognizing apparatus, connected to said managing server, for recognizing each sheet, wherein said charge managing server has a first table for storing the number of use times by each of said sheet recognizing apparatus and a second table for managing a charge amount to be claimed to each of said sheet recognizing apparatus, collects the numbers of use times of the sheet definition data from said sheet recognizing apparatus at a desired date and time to write the numbers of use times in the first

table, calculates a use charge for each of said sheet recognizing apparatus by referring to the first table to write the calculation results in the second table, claims the use charge for each of said sheet recognizing apparatus by referring to the second table, and when each of said sheet recognizing apparatus pays the claimed use charge, writes a flag indicating the payment in the second table.

24. A sheet recognizing system comprising:

    a sheet defining terminal for generating sheet definition data representative of characteristics of a sheet;

    a sheet definition data managing server for storing and managing the sheet definition data;

    image acquiring means for acquiring image data of the sheet;

    a recognizing server for recognizing the acquired image data of the sheet by referring to the sheet definition data stored in said sheet definition data managing server; and

    a charge server for storing the number of use times of the sheet definition data each time said recognizing server recognizes a desired sheet and for calculating a use charge of the sheet definition data in accordance with the stored number of use times.

25. A sheet recognizing system according to claim 24, further comprising a sheet definition data managing apparatus for managing the sheet definition data and a

sheet recognizing apparatus electrically connected to said sheet definition data managing apparatus for executing a sheet recognizing process, wherein said sheet definition data managing apparatus includes said sheet defining terminal, said sheet definition data managing server and said charge server, and said sheet recognizing apparatus includes said image acquiring means and said recognizing server.

26. A sheet recognizing system according to claim 25, wherein said charge server stores the number of use times each time said sheet recognizing apparatus recognizes the sheet by referring to the sheet definition data and claims a use charge corresponding to the number of use times to the sheet recognizing apparatus, and said sheet recognizing apparatus pays the claimed use charge to said sheet definition data managing apparatus.

27. A sheet charging method for charging to an execution of sheet recognition, the method comprising the steps of:

generating sheet definition data representative of characteristics of a sheet and configuring a sheet definition database;

making a contract to use the sheet definition data between a sheet definition data managing apparatus for managing the sheet definition data and a sheet recognizing apparatus for recognizing the sheet by using the sheet definition data;

making the sheet definition data managing apparatus configure the sheet definition data satisfying requirements of the sheet recognizing apparatus and transmit the configured sheet definition data to the sheet recognizing apparatus;

making the sheet recognizing apparatus recognize acquired image data of the sheet by using the received sheet definition data and store charge information corresponding to the number of use times of the sheet definition data;

making the sheet definition data managing apparatus acquire the charge information from the sheet recognizing apparatus and sum up the acquired charge information, and claim a use charge to the sheet recognizing apparatus in accordance with a summed-up result; and

making the sheet recognizing apparatus pay the claimed use charge to the sheet definition data managing apparatus.

28. A sheet charging method according to claim 27, further comprising the steps of:

storing image data unable to be recognized by the sheet recognizing apparatus even by using the sheet definition data; and

making the sheet definition data managing apparatus read the unrecognizable sheet image data from the sheet recognizing apparatus and supplement or update the sheet definition data generated by using the

read image data.

29. A sheet charging method comprising the steps of:

generating and storing sheet definition data defining characteristics of a sheet;

recognizing the sheet by using the stored sheet definition data; and

calculating a use charge from the number of use times of the sheet definition data used for recognizing the sheet.

30. A sheet charging method according to claim 29, wherein the use charge is a charge claimed each time the sheet definition data is used.

31. A sheet charging method according to claim 29, further comprising a step of claiming the calculated use charge.

32. A sheet charging method according to claim 31, wherein information on whether the claimed use charge is paid or not is stored.